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ABSTRACT

This booklet describes the lessons learned in introducing a computer system in a nursing home. It is suggested that a computer system can open up channels of communication, increase accountability, reduce time spent on paperwork, satisfy the information needs of regulators, and improve resident care planning. Criteria for selecting a computer system are discussed, focusing on the three major tasks of software selection, hardware selection, and software modification. Criteria used to evaluate vendors are listed: specific features provided; equipment used; cost of system; sample reports generated by the system; and training provided with system. The training and orientation of employees in the proper use of the program is claimed to be the most important step of implementing a computer program. It is recommended that the orientation program discuss misconceptions about computers; the purpose of implementing the computer program; procedures on the use of the system; and how the program will change job tasks and specific tasks in which the computer will assist staff. The report concludes that the computer can result in improved use of staff time; decreased cost of reports and information; an increase in usefulness of information, and motivation and morale of staff; improved communication and integration of staff and management; and increased resident satisfaction and improved resident care planning. (ABL)

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HOW AND WHY TO PLACE A COMPUTER IN YOUR NURSING HOME

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HOW AND WHY TO PLACE A COMPUTER IN YOUR NURSING HOME

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Community Lifecare Centers

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Introduction

This booklet describes the lessons learned in introducing a computer system to the Lifecare Center of Benton, which is owned by Community Lifecare Enterprises of Springfield, Illinois. Through this project, supported by the Illinois Department of Public Aid, it was possible to explore the various approaches to introducing a computer system into the ongoing operations of a nursing home and measuring all the steps and results along the way.

How might computers improve the management and staff knowledge of residents and their needs in nursing homes? From that question was born a two-year project in southern Illinois. Four homes were selected as "controls" for the project and the Lifecare Center of Benton was selected as the experimental home where the computer system would be installed. The object was to discover if the Benton facility had measurably improved in its operation in comparison to four homes without the computer.

The personnel at Benton were trained and the computer system installed in the fall of 1986 after approximately one year of pilot studies and selecting hardware and software. We were especially interested in the following aspects:

Improved Use of Staff Time — Measurements were made to determine if the improved ability to provide information to caregivers would free up the time of staff in order to spend more time assisting and talking to the residents.

Decreased Cost of Reports and Information — By using the computer to electronically store, retrieve and manipulate information, it was hoped that the cost of record-keeping would go down.

Usefulness of Information — It was further hoped that the ability to provide information almost immediately as needed and to update information quickly would mean that the information available would be used more than in the past and play a more important role in allowing the staff to serve resident needs.

Motivation and Morale of Staff — Measurements were made to determine a change in staff motivation and morale.

Communication and Integration of Staff and Management — It was anticipated that information flows through the management and care plan reports would improve communication between departments and all staff members.

Resident Satisfaction — It was hoped that more time for the staff to spend with residents, along with better and more timely information would all act to improve staff morale and make for improved quality of care and satisfaction for residents.

As with any new program, a certain flow of events precedes actual use.

The timing of the different steps is laid out here:

- the planning of objectives
- hiring and preparation of staff
- purchasing equipment
- conducting training for the system
- initial data entry
- operation

The information contained in this booklet is based on a four-month trial using a computer system at a 71-bed nursing home in Southern Illinois, Lifecare Center of Benton. Through this project you can learn what you need to know about using a computer program in a nursing home — the resources, preparation and planning steps which are necessary. Implementing a computer system in a nursing home is not difficult if these steps are thought out in advance.

Why Do You Need A Computer?

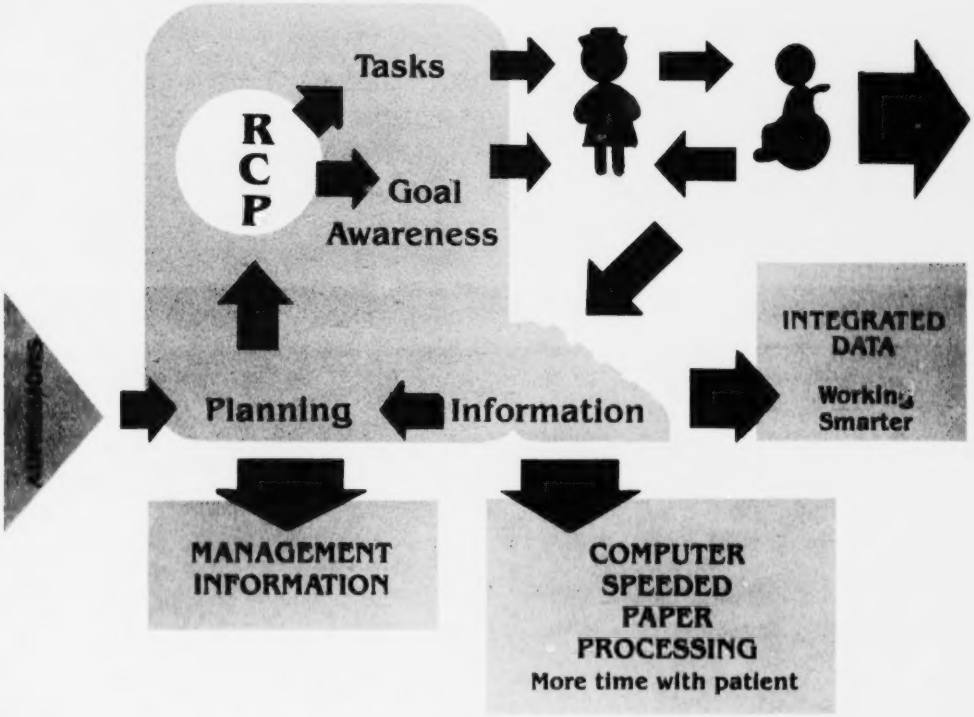
In order to successfully manage a long-term care facility, large amounts of data must be organized using limited resources. Resident information for caregivers, bookkeepers, third party payors, regulators and many others is requested in a variety of formats. A computer system can open up channels of communication where none existed before. It can also increase accountability, reduce time spent on paperwork and satisfy the appetite for information by regulators. Adding a computer to a long-term care facility is much like adding a new information expert. The computer can provide data quickly and efficiently for managers and caregivers. Computers have the ability to integrate departments into a more coordinated effort of resident care.

It is certainly more convenient to have a management report immediately than to update lists manually every day. Reducing time spent on such clerical chores frees time for direct care. Examples of management reports which can be useful are restorative program lists, drug regimen lists, physician visit lists, dietary preference lists, room/bed listing, dietary seating arrangements, activity schedules, staffing schedules, work assignment sheets, resident birthday list, diagnosis report, funeral home list, religious preference and phone contact, and many others. These reports can be produced and revised quickly and save time and effort in extracting this information manually.

One of the most valuable advantages of computer programs is in the area of care planning. The resident care plan is composed of needs, problems, goals and approaches for nursing home residents for the purpose of promoting optimal well-being. Care planning is actually a communication system between caregivers in which information regarding each resident care plan must be communicated. A computer program can automatically generate and retrieve care plan information and reduce time consuming manual rewriting of care plan information.

HOW SYSTEM BENEFITS FACILITY RESIDENTS

DYNAMIC INTEGRATED RESIDENT CARE PLANNING SYSTEM



By using a computer system for resident care planning, the morale and motivation of the staff may increase. This is due to more involvement and ownership of caregivers in the care planning process. The computer system can facilitate fast, easy-to-read care plans which can be revised instantaneously.

By implementing a computer program, facility managers can take advantage of new information available. A computer program can make it easier to check staff functioning and performance and allow different levels of staff to have needed information to do their jobs. Information is passed more easily from shift to shift and can improve the accuracy of work tasks being done. The computer saves time on paperwork by generating automatic work assignment sheets which are directly related to the care plan.

What Type Computer System Do You Need?

Once a decision has been made to adopt a computer system, a selection needs to be made on which type would suit your needs. This selection involves three major tasks: 1) software selection, 2) hardware selection, and 3) software modification.

Criteria should be established as to the various hardware and software requirements from which to review packages. The criteria can be used to evaluate vendors and should cover the:

- specific features provided
- equipment used
- cost of system
- sample reports generated by the system
- training provided with system.

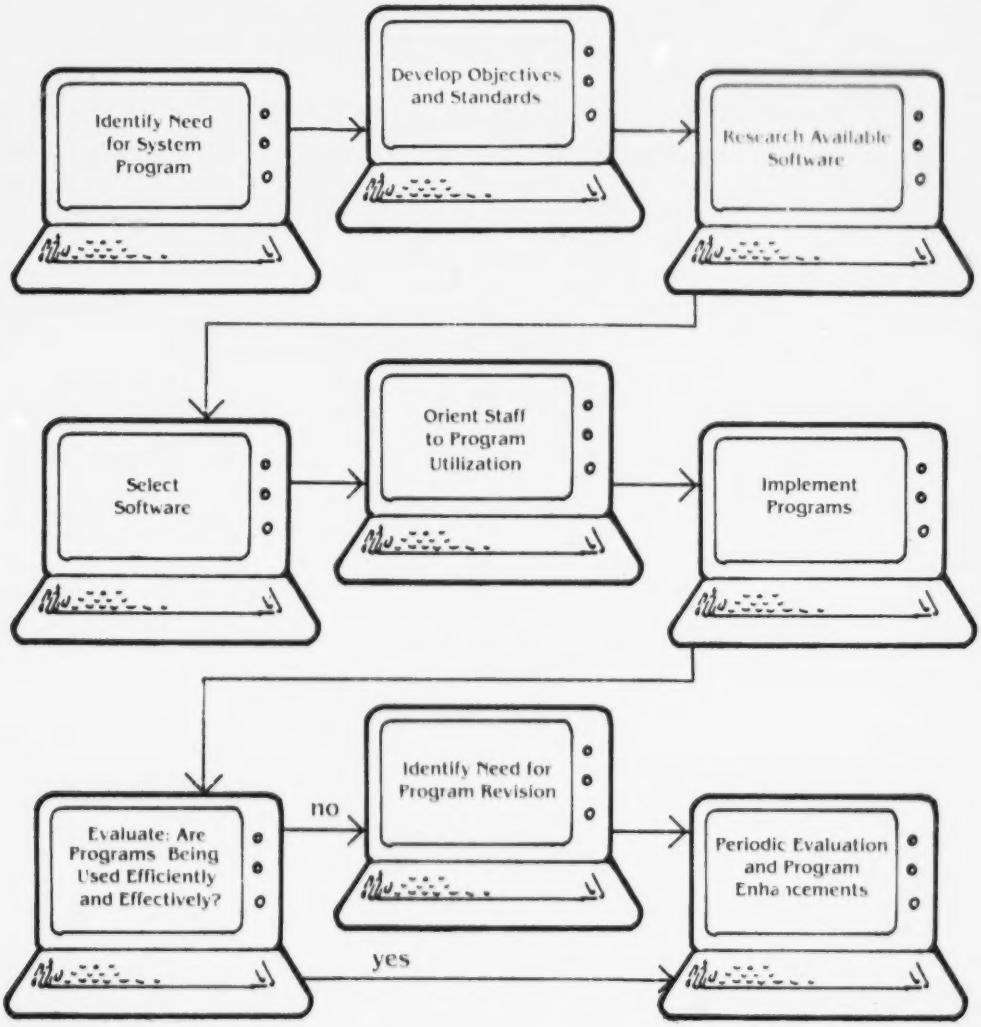
A demonstration of test data is desirable to assure the system can perform and produce reports in the format required by the facility.

Before evaluating different software packages, specific criteria should be outlined which identify features which meet the needs of your facility. These features can then be cross-checked on a form when reviewing different software packages. The following is an example of this method for selecting software.

SYSTEM EVALUATION

FEATURES:	SYSTEM 1	2	3	4
On-line, realtime entry/update of:				
✣ Resident Admission	No	Yes	No	Yes
✣ Resident Assessment	No	Yes	No	Pos
✣ Resident Care Plan Date	Yes	Yes	Yes	Yes
Generation of Reports:				
✣ Resident Care Plans	Yes	Yes	Yes	Yes
✣ Care Plan Work Tasks	No	Yes	No	Yes
✣ Resident Goal Summaries	No	Yes	No	Yes
✣ Facility Management Reports:				
• Demographic	Yes	Yes	No	Yes
• Diagnosis	Yes	Yes	No	Yes
• Rehabilitation Needs	No	Yes	No	Yes
• Dietary Needs	Yes	Yes	No	Yes
• Social Needs	No	Yes	No	Yes
• Activities	No	Yes	No	Yes
• Affiliation	No	Yes	No	Yes

SEQUENCE OF INITIATING SPECIAL PROGRAMS



Planning For Your Computer

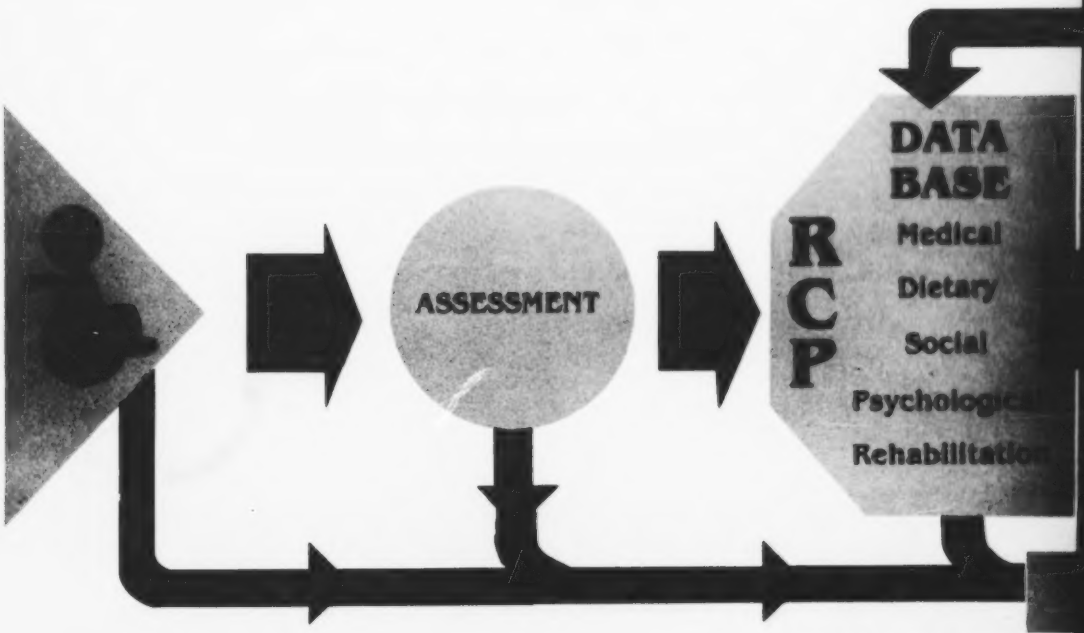
Once a selection has been made on equipment and software, the planning begins on how to make the program work for the individual needs at your facility. The involvement of users at *every organizational level* during the planning stage is a key factor in successfully implementing a computer system. By promoting participation by all departments which will be involved in using the system, a cooperative environment is assured. Getting the right people involved in the planning stages is critical to achieving the objective of a system that works for you. The right people include those persons who will be using the system directly. Involving persons from facilities with prior experience is helpful to allay apprehension about the new system. It is important to personalize the coming computer, to tell of the irksome tasks it will do for the staff.

One of the best methods of promoting cooperation in the planning stages is to establish a **User Committee**. The purpose of the **User Committee** is to provide a structured method of communication between users of the system. The functions of the **User Committee** are:

- to identify informational needs,
- to identify problems within the system,
- to provide evaluation on the use of reports,
- to provide input on modifications to be made to the system.

The User Committee should meet several times before the computer program is installed and as often as necessary through the implementation process.

INFORMATION FLOW



DATA BASE

MEDICAL

Diagnosis Report
Discharge Report
Physical Examination List
Physical Examinations Due

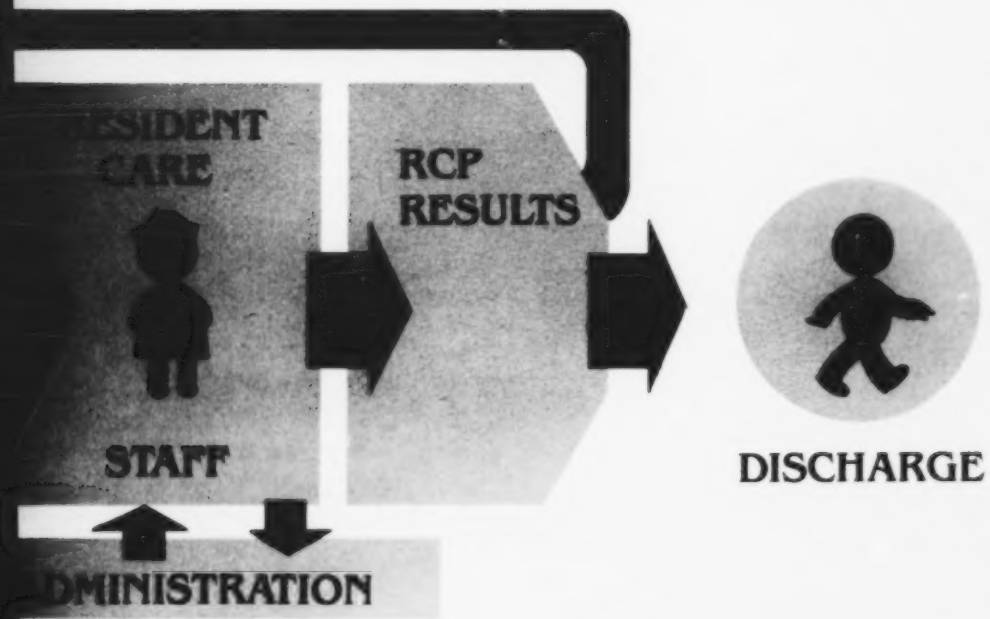
DIETARY

Diet Order Report
Diet Preference Report
Eating Equipment Needs
Monthly Weight Report
Resident Dining Area
Weight Monitor List

SOCIAL

Church Information
Funeral Home Preference List
Residents' Voting List
Birthday List
Clubs & Organizations List
Residents' Interests List
Volunteer Work Experience

DYNAMIC INTEGRATED RESIDENT CARE PLANNING



COMPONENTS

REHABILITATION

Bowel & Bladder Training List
Needing Assistance with Eating
Personal Hygiene – ADL Assistance
Positioning List
Resident Strengths List
Skin Breakdown Potential
Special Equipment Needs
Transfer Training (Rehab)
Weight Bearing (Rehab)

PSYCHOLOGICAL

Primary Observed Behavior
Residents' 1:1 Visitation

Staff Resources

There are also several key persons who should be identified in association with the new information expert, your computer. It is important to prepare staff members how roles will change, who will do what, and how everyone will gain from the system.

It is important that the facility appoint one key person with responsibility to oversee the planning and implementation of introducing a computer system. This person, often called a **System Coordinator**, can be designated from existing staff or a person outside the facility staff. This person should be given the authority to make key decisions in relation to the system and have strong organizational skills to facilitate implementation of the project. In small facilities, the System Coordinator may be the Administrator. It is advantageous for this person to have prior experience with implementing computer systems and knowledge of Federal and State programs which dictate documentation requirements. Job responsibilities which the System Coordinator would be responsible for are:

- determining information needs of each department;
- coordinating the installation and training schedule;
- establishing procedures in the use of the system;
- conducting training and orientation sessions;
- handling communications between facility and vendor personnel;
- scheduling implementation activities;
- resolving problems which arise in relation to the system.

The **System Operator**, or Data Input Operator, is another key resource person required. The qualifications of the System Operator which are most beneficial are: prior experience with computers, familiarity with medical records and communication skills. A System Operator can be a nurse, ward clerk, secretary, word processor, or any other person who has capability in using a computer and working with medical records. Some smaller facilities may designate someone from their existing staff who will input data. A larger facility would probably need a full-time employee designated to be a System Operator depending on

the extent of data which is being automated.

For facilities implementing a care planning system, it is important for the System Operator to participate in care planning sessions. This provides a quality control measure to assure that the care plans are legible and ready to be entered as input documents.

It is extremely important to have a specific person designated as a **Back-Up Operator**. This person should be trained along with the System Operator and participate in practicing using the terminal. The person designated to be the Back-Up Operator is necessary in case the System Operator is unavailable.

Training and Orientation

While all steps of implementing a computer program are important, training and orientation in proper use of the program is the most important. Employees should understand that the computer is their information expert which will make their jobs easier.

Throwing computers at nursing homes will not gain the benefits demonstrated in this project. A training and orientation schedule should be developed which allows ample time to develop competence and overcome computer fear.

Prior to signing a contract with a computer vendor, an agreement should be made in relation to system modifications. Specific questions which should be covered when discussing training with the vendor are:

- is training program provided to all potential users of the system or to one person who will train others?
- what is the content of the training program?
- does the training program consist of one session before implementation or incremental sessions before, during and after implementation?
- is training provided on-site or at a separate location?
- how many hours of training are provided?

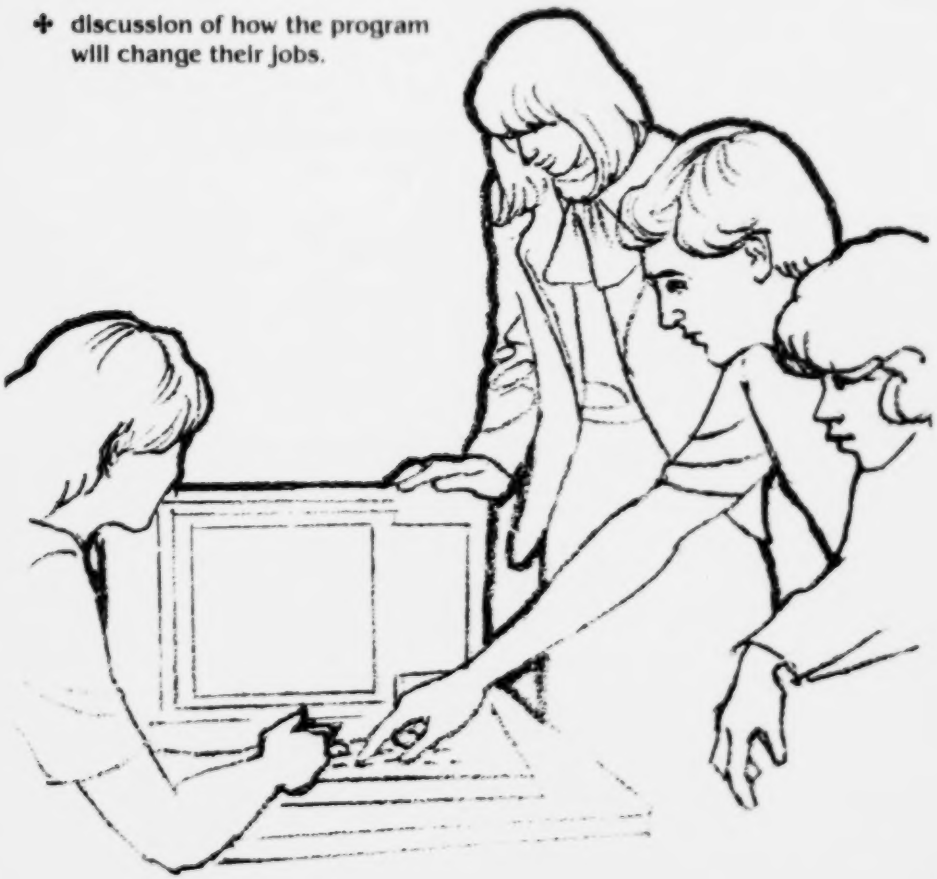
It is advantageous to practice with simulated data until the operators feel proficient enough to enter real data. This will help alleviate some of the stress of changing to a new system. Most staff realize the benefits of their computer as soon as their first report is produced.

The orientation program is designed to inform all employees of the purpose of the computer and how it will be used. It is important to have follow-up in-service sessions after the initial orientation, especially if the turnover rate is high. These additional in-service sessions provide reinforcement on procedures and an opportunity to identify any problems in using the system. Orientation should be provided by the System Coordinator or any other person who is involved in

implementing the program. The orientation should cover the following topics:

- clarify misconceptions about computers
- the purpose of implementing the computer program
- procedures on the use of the system
- discussion of how the program will change their jobs.
- show specific tasks in which the computer will assist the staff.

The schedule for orientation of staff employees on the new computer program should not be conducted until the system operator has entered the real data and the system is ready to be implemented. This allows more potential for retention of information.



Up and Running

Once the training and orientation are completed and data are entered, it is time for the system to become fully operational and make use of your new capabilities. If a facility has decided to implement several programs, a phased-in approach is recommended. This allows staff to build on success if the easier programs are implemented initially. Start with the easiest tasks, master those, and move to harder aspects of the system.

It is important to have a good rapport with the vendor, who should be available and responsive to the staff at the facility as questions arise. As the programs are implemented, it is necessary to retrain staff to smooth out the rough edges. This will help divert the disgruntlements that will naturally arise with any change.

The User Committee is extremely useful at this stage to identify additional useful information which the computer can provide. Your investment in a computer should be used to its fullest capability. The User Committee can also identify problems which need resolution such as a procedural change.

Conclusions

Through this research and demonstration project, the benefits of adopting microcomputer technology to the information needs of a small long-term care facility were realized. The following is a sampling of comments from staff at the facility in which the computer system was implemented:

> "At first I thought 'Here we go with a new system and more paperwork . . .' but I was wrong. The system really works and makes things easier and saves me a great deal of time . . ."
>
> "Nurses had complained that they were paid to do resident care and had no time to do resident care because of the paperwork. Now they can do resident care . . ."
>
> "This system is really so much better that thinking of the old manual system is painful . . ."

The costs of the computer system are reasonable and should be affordable by any nursing home. Computer fears and credibility of information are critical factors to overcome in the installation of computer-based resident care information systems. Staff trust in the system is the prime limiting factor to the effectiveness of a computer system.

The major findings from the evaluation of the effects of the computer system show what a computer system can really do for a nursing home.

Improved Use of Staff Time — The installation of a new computer system inevitably increases paperwork requirements as the system is installed and decreases as the transition is completed. The quality of information produced by the system should be expected to start low and improve over the next year.

It was estimated at Benton that after the shakedown period is over, nurses will save approximately one-half hour of charting per resident every two weeks, resulting in approximately 70 hours of saved work time per month. It was also estimated that nurse aides will save three-quarters of an hour of documentation per day with the new system resulting in a 9% savings of time per week.

Decreased Cost of Reports and Information — Although labor costs were essentially the same as at the control facilities, these costs are expected to decline through the transitional period. The total costs for the use of the computer system

is considered to be reasonable and modest.

Usefulness of Information — Staff awareness of the resident care plans and the importance of planning has risen threefold. There is a marked increase in communication by written means along with an increased staff trust in written communication. The work assignment sheet has been especially valuable in improving staff effectiveness.

Motivation and Morale of Staff — Only at the Benton facility was there a sharp increase in job definition and focus in the minds of the employees. These improvements are clearly a result of the rationalization required by the computer system, of the clarity of the new reports available to the staff, as well as the care planning process which involves all of the staff to a greater degree than previously.

Communication and Integration of Staff and Management — The new system of resident care planning coupled with the computer system have increased staff integration and communication at Benton. The system has already made staff more aware of resident needs and goals so that care giving is qualitatively improved.

Resident Satisfaction and Resident Care Planning — Based on the pre- and post-test QUIP surveys, the following observations can be made:

- at the experimental site resident satisfaction improved 50% against an average improvement in the control sites of only 14%, for a net improvement of 36%;
- the quality of resident care planning also increased greatly though this scoring dimension of QUIP seems unstable; and
- the comments of the central office QUIP evaluator indicate that technical issues do not allow these QUIP scores to reflect the vast improvements observed at the experimental site.